IN THE CLAIMS:

Please amend Claims 1, 2, and 7, and add new Claim 9, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

Claim 1 (currently amended): A photoelectric conversion device comprising:

a plurality of pixels arranged in a pixel region, each pixel including a photoelectric conversion region for converting light into a signal charge, and a transfer transistor for transferring the signal charge from the photoelectric conversion region; and

a peripheral circuit arranged outside of the pixel region and including a circuit for processing the signal charge,

wherein the plurality of pixels and the peripheral circuit [[being]] are disposed together on a substrate,

wherein the ~~photoelectric conversion~~ pixel region includes:

a first semiconductor region of a first conductivity type disposed in the substrate of a second conductivity type that is opposite to the first conductivity type[[;]],

a second semiconductor region of the second conductivity type~~, the second semiconductor region being~~ disposed in the substrate ~~for accumulating~~, such that the first and second semiconductor regions form the photoelectric conversion region and accumulate the signal charge[[;]], and

[[a]] the transfer transistor ~~for transferring the signal charge from the second~~

~~semiconductor region~~ disposed in the first semiconductor region,

wherein the peripheral circuit includes a third semiconductor region of the first conductivity type disposed in the substrate, such that a transistor forming the peripheral circuit is arranged in the third semiconductor region,

wherein an impurity concentration of the first semiconductor region is higher than an impurity concentration of the third semiconductor region, and

wherein the first semiconductor region extends deeper into the substrate than the third semiconductor region.

Claim 2 (currently amended): A photoelectric conversion device comprising:

a plurality of pixels arranged in a pixel region, each pixel including a photoelectric conversion region for converting light into a signal charge, and a transfer transistor for transferring the signal charge from the photoelectric conversion region; and

a peripheral circuit arranged outside of the pixel region and including a circuit for processing the signal charge,

wherein the plurality of pixels and the peripheral circuit are disposed together on a substrate,

wherein the ~~photoelectric conversion~~ pixel region includes:

a first semiconductor region of a first conductivity type disposed in the substrate, the substrate being of a second conductivity type that is opposite to the first conductivity type[[;]],

a second semiconductor region of the second conductivity type~~, the second semiconductor region being~~ disposed in the substrate ~~for accumulating~~, such that the first and second semiconductor regions form the photoelectric conversion region and accumulate the signal charge[[;]], and

[[a]] the transfer transistor ~~for transferring the signal charge from the second semiconductor region~~ disposed in the first semiconductor region,

wherein the peripheral circuit includes a third semiconductor region of the first conductivity type disposed in the substrate, such that a transistor forming the peripheral circuit is arranged in the third semiconductor region,

wherein said first and third semiconductor regions have impurity concentration profiles forming peaks,

wherein a peak impurity concentration of the first semiconductor region is higher than a peak impurity concentration of the third semiconductor region, and

wherein the peak impurity concentration position of the first semiconductor region is disposed deeper than the peak impurity concentration of the third semiconductor region.

Claims 3 and 4 (cancelled).

Claim 5 (previously presented): The photoelectric conversion device according to Claim 2, wherein

the first semiconductor region has a structure wherein plural semiconductor regions have

impurity concentration peaks disposed in a depth direction inside the substrate, and

an impurity concentration of an impurity concentration peak disposed in a deepest portion is higher than an impurity concentration of an impurity concentration peak disposed at a side of the photoelectric conversion device.

Claim 6 (previously presented): The photoelectric conversion device according to Claim 2, wherein the first semiconductor region and the third semiconductor region are formed of plural semiconductor regions having impurity concentration peaks, and a peak impurity concentration of a region of a highest impurity concentration peak, among plural regions of the first semiconductor region, is higher than a peak impurity concentration of a region of a highest impurity concentration peak concentration among plural regions of the third semiconductor region.

Claim 7 (currently amended): A photoelectric conversion device comprising:

a plurality of pixels arranged in a pixel region, each pixel including a photoelectric conversion region for converting light into a signal charge, and a transfer transistor for transferring the signal charge from the photoelectric conversion region; and

a peripheral circuit arranged outside of the pixel region, the peripheral circuit including a circuit for processing the signal charge,

wherein the pixels and the peripheral circuit are disposed together on a substrate,

wherein the ~~photoelectric conversion~~ pixel region includes:

a first semiconductor region of a first conductivity type disposed in the substrate, the substrate being of a second conductivity type that is opposite to the first conductivity type[[;]],

a second semiconductor region of the second conductivity type~~, the second semiconductor region being~~ disposed in the substrate ~~for accumulating~~, such that the first and second semiconductor regions form the photoelectric conversion region and accumulate the signal charge[[;]], and

[[a]] the transfer transistor ~~for transferring the signal charge from the second semiconductor region~~ disposed in the first semiconductor region,

wherein the peripheral circuit includes:

a third semiconductor region of the first conductivity type disposed in the substrate, such that a transistor forming the peripheral circuit is arranged in the third semiconductor region,

wherein the first semiconductor region has a structure wherein plural semiconductor regions having impurity concentration peaks are disposed in a depth direction inside the substrate,

wherein an impurity concentration of an impurity concentration peak disposed in a deepest portion is higher than an impurity concentration of an impurity concentration peak disposed at a side of the photoelectric conversion device, and

wherein an impurity concentration of an impurity concentration peak disposed in a deepest portion of the first semiconductor region is higher than an impurity concentration of an

impurity concentration peak of the third semiconductor region.

Claim 8 (previously presented): The photoelectric conversion device according to Claim 7, wherein the impurity concentration peak disposed in the deepest portion of the first semiconductor region is deeper than an impurity concentration peak of the third semiconductor region.

Claim 9 (new): A photoelectric conversion device comprising:

a plurality of pixels arranged in a pixel region, each pixel including a photoelectric conversion region for converting light into a signal charge, and a transfer transistor for transferring the signal charge from the photoelectric conversion region; and

a peripheral circuit arranged outside of the pixel region and including a circuit for processing the signal charge,

wherein the pixel region includes:

a first semiconductor region serving as a well of a first conductivity type disposed in the substrate of a second conductivity type that is opposite to the first conductivity type,

a second semiconductor region of the second conductivity type disposed in the first semiconductor region, being a part of the photoelectric conversion region and accumulating the signal charge, and

source and drain regions of the transfer transistor disposed in the first semiconductor region,

wherein the peripheral circuit includes:

a third semiconductor region serving as a well of the first conductivity type disposed in the substrate, and

source and drain regions of a transistor forming the peripheral circuit,

wherein an impurity concentration of the first semiconductor region is higher than an impurity concentration of the third semiconductor region, and

wherein the first semiconductor region extends deeper into the substrate than the third semiconductor region.